SCOPE OF PATENT CLAIMS

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Claim 1. An organic electroluminescence element material comprising a metal complex provided with a ligand represented by Formula (1),

Formula (1)



wherein, X_1 , X_2 , X_3 and X_4 are each independently a carbon atom or a nitrogen atom; C_1 and C_2 are carbon atoms; C_1 in conjunction with C_1 , C_2 , C_3 and C_4 in conjunction with C_2 , C_4 and C_5 and C_6 are carbon atoms; C_7 and C_8 and C_8 are each an atomic group which forms an aromatic hydrocarbon ring or an aromatic heterocyclic ring, respectively; C_8 is a nitrogen atom or a boron atom; C_8 is a substituent group; and a bond between C_1 and C_2 , a bond between C_1 and C_2 , and C_2 , a bond between C_3 and C_4 , are a single bond or a double bond.

Claim 2. The organic electroluminescence element material of claim 1, wherein R_1 of Formula (1) is an aromatic hydrocarbon ring or an aromatic heterocyclic ring.

Claim 3. An organic electroluminescence element material comprising a metal complex provided with a partial structure represented by Formula (2),

Formula (2)

wherein, C_3 , C_4 , C_5 , C_6 , and C_7 are each independently a carbon atom or a nitrogen atom; Z_3 in conjunction with C_3 , C_4 and C_5 is an atomic group which forms an aromatic hydrocarbon ring or an aromatic heterocyclic ring; Z_4 in conjunction with C_6 , C_7 and N is an atomic group which forms an aromatic heterocyclic ring; A_2 is a nitrogen atom or a boron atom; R_2 is a substituent group; M_{11} is an element of the 8th to 10th groups of the periodic table; and a bond between C_4 and C_5 , a bond between C_6 and C_7 , and a bond between C_7 and C_7 , are a single bond or a double bond.

Claim 4. The organic electroluminescence element material of claim 3, wherein $R_{\rm 2}$ of Formula (2) is an aromatic hydrocarbon ring or an aromatic heterocyclic ring.

Claim 5. The organic electroluminescence element material of claim 3, wherein the metal complex is provided with a partial structure represented by Formula (3) or a tautomer thereof,

Formula (3)

wherein A_3 is a nitrogen atom or a boron atom, R_3 is a substituent group, R_4 and R_5 are substituent groups, n_1 and n_2 are each 0, 1 or 2, and M_{12} is an element of the 8th to 10th groups of the periodic table.

Claim 6. The organic electroluminescence element material of claim 3, wherein M_{11} or M_{12} is iridium.

Claim 7. The organic electroluminescence element material of claim 4, wherein M_{11} or M_{12} is iridium.

Claim 8. The organic electroluminescence element material of claim 5, wherein M_{11} or M_{12} is iridium.

Claim 9. The organic electroluminescence element material of claim 3, wherein M_{11} or M_{12} is platinum.

Claim 10. The organic electroluminescence element material of claim 4, wherein M_{11} or M_{12} is platinum.

Claim 11. The organic electroluminescence element material of claim 5, wherein M_{11} or M_{12} is platinum.

Claim 12. An organic electroluminescence element comprising the organic electroluminescence element material of claim 1.

Claim 13. The organic electroluminescence element of claim 12, wherein the element is provided with at least one emission layer as a constituent layer.

Claim 14. The organic electroluminescence element of claim 12, wherein the element is provided with at least one emission layer and one positive hole inhibition layer, serving as constituent layers.

Claim 15. A display device comprising the organic electroluminescence element of claim 12.

Claim 16. An illumination device comprising the organic electroluminescence element of claim 12.